

REMARKS

Claims 1-12 are currently pending in this application as amended. By this Reply, claims 1, 9 and 11 have been amended as noted above. Additionally, replacement sheets 1-3 of the drawings have been provided as formal drawings based on the original drawings. No new matter has been introduced in the application by these amendments.

In the Action, the drawings were noted as being acceptable by the Examiner. However, formal drawings were required. In response, replacement sheets 1-3 of the drawings are enclosed and comprise formal drawings based on the originally submitted drawings. Accordingly, the drawings should now be acceptable.

In the Action, claims 1-12 are rejected as anticipated by U.S. Patent 6,545,246 to Kummle. Applicant notes that this application is commonly assigned with Kummle to Dreistern-Werk Maschinenbau GmbH & Co. KG and applicant is familiar with this prior patent. Kummle is directed to a laser welding device having two welding heads which are fed by single high frequency energy source. In order to provide stitched weld joints using a single energy source, the welding energy is divided and intermittently sent to one or the other of the welding heads. The welding heads can be moved in the direction of movement of the profile which is being welded in order to provide a better weld with higher energy for a given point as the relative speed between the welding head and the profile being welded would then be less than the speed that the profile travels in comparison to a stationary welding head. However, this is mainly useful in connection with stitched welds as described in detail in Kummle at column 5, lines 12-15. While there is a disclosure of stopping the weld energy before upon stopping feeding of the profile being welded, there is no suggestion or disclosure as to how a continuous or near continuous welded seam is produced as in the present invention. To the extent that the entire purpose of Kummle was to allow, for example, for welding on two sides of a profile using a single energy source, the present invention is outside the scope of the disclosure in Kummle.

According to the present invention and as recited in claim 1, the present invention provides a welding device for welding longitudinal profiles which allows for the creation of a continuous or near continuous welded seam. This is accomplished according to the invention by provided a control system for the welding head which controls the location of the weld point so that it is moved in the direction of transport while the welding energy is switched off each time the profile is at a standstill. The weld point is then moved back toward the initial position against the direction of transport after restarting of the transport movement and exceeding of the threshold transport speed at which the welding energy is switched on. As described in detail in the Specification and recited in claim 1, this allows a continuous welded seam to be formed with a slight overlapping weld as illustrated at element 25 in Figure 3 or with a small space between the continuous welded seam as indicated at element 24 in Figure 3. This is due to the fact that the welding head is advanced in the direction of travel when the profile is stopped and the welding energy is turned off such that upon starting movement of the profile being transported and the welding energy, a continuous or near continuous seam can be formed based on the specific settings of the control system which allows the welding to start upstream or at the place where the previous weld ended. There is no suggestion or disclosure of this type of control system for a welding operation in Kummle which, as explained above, is directed to feeding two separate welding heads from a single high energy source which is particularly useful for stitched welding, and also may have some application in continuous welding. However, there is no suggestion or disclosure of the control system of the present invention which specifically allows for continuous or near continuous welding seams to be formed even though energy to the welder must be shut off during times when the profile is below a threshold transport movement speed or stopped so that if energy was continually supplied to the welding head damage to the profile would result.

As recited in claim 1, this problem, which is not suggested, discussed or addressed by Kummle et al. is solved according to the present invention.

With respect to independent claim 9, this method similarly requires moving the location of the weld each time the profile is at a standstill in a direction of transport of the profile while the welding energy is switched off and only after restarting of the transport movement and exceeding the threshold transport speed at which the welding energy is switched on does the welding head return to its initial position (while welding) against the direction of transport movement in order to provide a continuous or near continuous welded seam.

Accordingly, withdrawal of the Section 102 rejection of claims 1 and 9 is respectfully requested. Claims 2-8 depend from claim 1 and claims 10-12 depend from claim 9, respectively, and these claims should be similarly patentable for the reasons noted above in connection with claims 1 and 9.

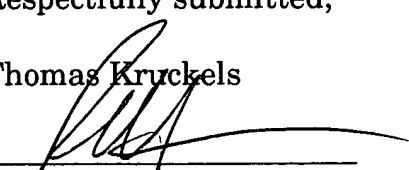
If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing Amendment and Remarks, applicant respectfully submits that the present application, including claims 1-12, is in condition for allowance, and a Notice to that effect is respectfully requested.

Respectfully submitted,

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IN THE DRAWINGS

Replacement Sheets 1 – 3 of the drawings are enclosed. These Replacement Sheets comprise formal drawings based on the originally filed drawings and no amendments have been made.